Solicitation
For
Solid State Lighting Partnership

Introduction

The Department of Energy (DOE), National Energy Technology Laboratory (NETL), on behalf of the Office of Energy Efficiency and Renewable Energy's Building Technologies Program, is seeking a partner to support research, development, and demonstration (RD&D) activities in the Solid State Lighting (SSL) Portfolio. DOE intends to sign a Memorandum of Agreement (MOA) with the selected private sector organization. To be considered for selection, the membership of any proposing organization must include a significant portion of the United States manufacturing base of SSL products for general lighting applications. The partnership with the selected organization will provide a manufacturing and commercialization focus for the SSL Portfolio and accelerate the commercialization of SSL technologies through DOE access to the technical expertise of the organization's members, communication of SSL Portfolio accomplishments with the SSL community, and cooperative efforts of the partnership to promote demonstrations of SSL technologies. No federal funding will be provided to the selected organization.

Background

Annually, the United States consumes roughly 97 quadrillion Btus (quads) of primary energy. Electricity produced for primary consumption by the nation's 87 million homes and commercial buildings represents 37.1 quads of this total. Electricity consumed for lighting represents about 8.2 quads or nearly 8.5% of all the primary energy consumed annually by the Nation. Commercial buildings consume about 51%, industrial buildings about 14%, residences consume about 27% and outdoor stationary sources consume about 8%. Of the electricity consumed in the nation's buildings, lighting is responsible for 22%. Next to space heating and air conditioning, lighting is the most significant end use of electricity in American buildings yet it has a very low overall efficiency. Some estimates put the efficiency of the installed base of lighting in American buildings at less that 25%.

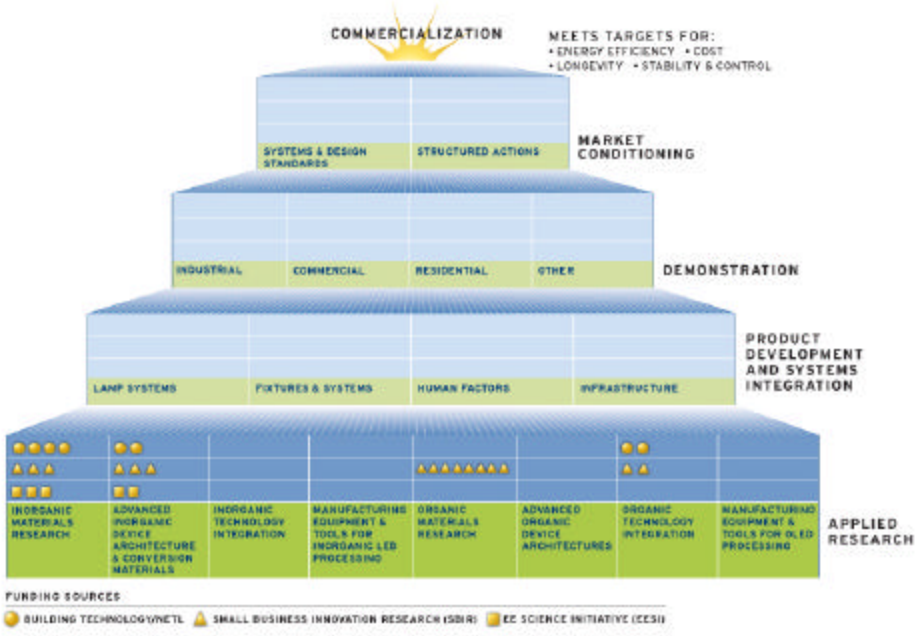
To address these issues and to advance energy conservation in lighting in U.S. buildings, the DOE's Building Technologies Program maintains a Lighting Research and Development (LR&D) activity. Key to the objectives of this activity is this mission statement:

> To increase end-use efficiency in buildings by aggressively researching new and evolving lighting technologies, in close collaboration with partners, to develop viable methodologies that have the technical potential to conserve 50% of electric lighting consumption by 2010.

The Building Technologies Program has identified Solid State Lighting (SSL), including light emitting diodes (LEDs) and organic light emitting diodes (OLEDs), as a technology with the potential to attain the goals of this LR&D mission statement.

To ensure that its research portfolio meets critical and evolving needs in a timely fashion, the LR&D activity has and continues to host industry-led efforts to develop and maintain a series of road maps for the various technologies that comprise the lighting business. SSL has been the focus of five discrete road mapping exercises during the past three years. The most recent event was held at the Doubletree Hotel in Crystal City, Virginia, on November 13 and 14, 2003. This workshop provided an outline of plans for the SSL Portfolio and prioritized applied research areas for the Portfolio. Information developed for and by this workshop may be viewed and downloaded at http://www.netl.doe.gov/ssl/.

The SSL Portfolio, as currently envisioned, includes several solicitations in a series that will span the next decade. As the relevant SSL technology base matures, it is anticipated that the level of technology maturation will advance from the present level, applied research, eventually to market conditioning once the targets for efficiency, cost, longevity, stability and control are demonstrated in a product environment. This sequence of technology maturation is illustrated schematically below.



Pyramid Schematic Representation of the DOE's Solid State Lighting Activity.

As illustrated by the figure, the overall objective of the DOE SSL activity spans four technology maturation levels. Two solicitations for applied research, a core solicitation for non-Federal entities and a DOE national laboratory call, and a product development solicitation for product development and systems integration are planned to be issued in FY04. The remaining two levels may be the subject of future stand-alone solicitations or they may be included in other future solicitations depending upon activity success and

milestone achievement, funding, contractual issues and other factors.

Scope of Effort

DOE will maintain and enhance the industrially-led, commercialization focus of the SSL Program through utilizing the expertise of the members of an organization of manufacturers in the solid state lighting industry. The purpose of this solicitation is to select this partner organization. The resulting Memorandum of Agreement will specify the responsibilities of DOE and its partner to support the development and commercialization of SSL technology for the public benefit.

The scope of activities of the partnership will consist of SSL research, development and demonstration in the technology maturation levels identified in the pyramid above, specifically identified as applied research, product development and systems integration, demonstration, and market conditioning. Based upon DOE procurement plans and the level of development of SSL technologies, early efforts of the partnership will focus on applied research and product development and systems integration. The SSL technologies that constitute the scope of the resulting MOA will include light emitting diodes (LEDs), organic light emitting diodes (OLEDs), and other semiconductor white-light producing devices for general lighting applications.

Specific collaborative activities of the partnership are expected to include:

- Conducting workshops related to SSL technology and annual program reviews for projects in DOE's SSL Portfolio. These workshops and program reviews will be jointly conducted by DOE and the partner organization but will be open to the public;
- Participating in project reviews for applied research projects in DOE's SSL Portfolio (i.e., the core research program);
- Coordinating the development of metrics, codes, and standards for measurement and utilization of SSL products for general illumination;
- Reviewing proposals for applied research in DOE's SSL Portfolio; and
- Planning and promoting demonstrations by partner organization members of SSL technologies used for general illumination applications

The private partner organization may designate a third party (i.e., a contractor or organization member) to participate in these activities on its behalf. Due to conflict of interest considerations, some members of the partner organization and some employees of members of the partner organization may be unable to participate in certain activities of the MOA.

Partnership Agreement

DOE plans to implement the partnership with a Memorandum of Agreement (MOA) between DOE and the selected organization. A MOA is a collaborative agreement between the Federal Government and the private sector to work together on a mutually

beneficial activity. The MOA will detail the scope of the activities, the forms of collaboration, the responsibilities of the partners, and the treatment of intellectual property in the SSL Portfolio. Under the MOA, each partner will perform its portion of the activities utilizing its own resources. Federal funding cannot be provided to the partner under the MOA.

It is expected that the MOA will initially extend for a period of 30 months, with options to extend the MOA for three additional 12-month periods for a total of five and one-half years. Each of the three extensions will result from the mutual approval of the partners.

A draft of the MOA for the Solid State Lighting Partnership is provided as an attachment to this solicitation. In the attached draft of the MOA, "Solid State Lighting Organization (SSLO)" is used as a place holder for the name of the selected partner.

Proprietary Information and Other Intellectual Property

It is not anticipated that the activities of the partnership will generate intellectual property; however, the interaction of the partnership with participants in the DOE SSL Portfolio will involve proprietary information and other intellectual property. Representatives of the partner's membership will be required to maintain the confidentiality of all sensitive information that they acquire during performance of partnership activities such as proposal and project reviews for the applied research SSL Portfolio.

DOE plans to pursue an exceptional circumstance determination pursuant to the Bayh-Dole Act that would provide each member of the partner organization, for a limited time period, the option to negotiate a non-exclusive license to subject inventions developed under the applied research program. Such license would be subject to payment of a reasonable royalty by the organization member. At this time, DOE cannot commit to approval of the exceptional circumstance determination. Regardless of approval, DOE plans, on a timely basis, to communicate information to its partner about the availability of intellectual property generated under the applied research program.

Proposal Instructions

Potential partners should provide the following information by June 4, 2004, to Douglas Gyorke, technical contact:

- A proposal that thoroughly and convincingly communicates the following:
  - Background, history, and activities of the proposing organization. This should include the vision or perceived marketing pathway of the organization for commercialization of SSL technologies for general illumination.
  - Ability of the organization's membership to commercialize solid state lighting products. This should include a listing of the current membership and a summary of the United States SSL manufacturing facilities and sales volumes for the current members as related to general lighting products. The proposal

must also discuss the organization's management of its membership, such as the types of membership, membership qualifications and application, membership dues, plans for access to intellectual property relevant to the SSL Portfolio, privileges of new members, and survival of privileges for former members.
    - A description of the organization's experience and ability to organize technical meetings, to coordinate the establishment of metrics, codes and standards for the SSL industry, and to develop and promote SSL demonstrations. This description should include examples of the organization's experience or a discussion of the capabilities of the organization to perform each of these functions.
    - The ability of the organization to provide technical expertise for proposal and project reviews. This should include either the technical qualifications of key staff of the proposing organization or the technical qualifications and commitment of key staff of the organization's membership.
    - Commitment of the organization to the activities of the partnership. This should include a letter of commitment from the proposing organization to perform the activities of the partnership and a description of the funding available to the organization to complete the planned activities. This section of the proposal should also include a discussion of the organization's procedures to maintain the proprietary nature of business-sensitive information and its plans to avoid conflicts of interest in the activities of the partnership.
- Additional information that may be included are:
    - Letters of commitment from current or prospective members of the organization.
    - Resumes of key staff of the organization or key representatives of its membership.
    - Additional scope in the draft MOA that would increase the strength of the partnership, support the development of SSL products or provide any other positive impact.

Evaluation Plan

Each proposal will be evaluated by DOE Program and Project managers in the SSL Portfolio. The proposals will be evaluated according to the following criteria, each weighted equally:

- Consistency of the organization's vision with the goals and plans for the DOE SSL Portfolio.
- The ability of the organization's membership to commercialize SSL technologies for general illumination.
- The ability of the organization to perform the activities of the partnership.
- The technical qualifications of key individuals from the organization or its membership.

- The commitment of the organization to the goals of the SSL Portfolio and the activities of the partnership, and the value of any additional proposed scope of the MOA.

DOE plans to complete the evaluation of proposals and select the partner organization by June 30, 2004.

Technical Contact

The technical contact for this solicitation is:

Douglas F. Gyorke
U.S. Department of Energy
National Energy Technology Laboratory
P.O. Box 10940
Pittsburgh, PA 15236
E-mail: douglas.gyorke@netl.doe.gov
Phone: (412) 386-6173
Fax: (412) 386-4775

Attachment: Draft Memorandum of Agreement

DRAFT

MEMORANDUM OF AGREEMENT
BETWEEN
THE UNITED STATES DEPARTMENT OF ENERGY (DOE)
AND
SOLID STATE LIGHTING ORGANIZATION (SSLO)

ARTICLE 1 – PURPOSE

This Memorandum of Agreement (MOA) is entered into by and between the Solid State Lighting Organization (SSLO) and the U.S. Department of Energy (DOE) ("the Parties") for the purpose of establishing a mutual framework governing the respective responsibilities of the Parties. The Parties will conduct activites in support of research, development, and demonstration of solid state lighting (SSL) technologies for general lighting applications.

ARTICLE II - OBJECTIVE

The objective of this MOA is to provide a partnership to conduct various activities in support of applied research, development, and demonstration activities targeted to the application of SSL technologies in energy efficient general lighting applications. In particular, this collaboration will support and enhance the Solid State Lighting Portfolio of the Building Technologies/Lighting R&D Program within DOE's Office of Energy Efficiency and Renewable Energy. The Parties believe that this cooperation will provide DOE with a manufacturing and commercialization focus in the development of research needs and goals for the DOE SSL Portfolio. The quality of the SSL Portfolio will be enhanced through the SSLO's ability to provide technical expertise for proposal and project reviews. The Parties further believe that the cooperation will accelerate the implementation of SSL technologies for the public benefit through communication of SSL Portfolio accomplishments within the SSL community and through the development and dissemination of metrics, codes and standards. The partnership will encourage the implementation of SSL technologies through the Parties' efforts to promote demonstrations of SSL technologies for general lighting applications.

ARTICLE III – SCOPE OF COLLABORATIVE ACTIVITIES

Collaboration under this MOA includes, but is not limited to, SSL activities in support of:

- Applied Research;
- Product Development and Systems Integration;
- Demonstration; and
- Market Conditioning

The SSL technologies that are the subject of this MOA include light emitting diodes (LEDs), organic light emitting diodes (OLEDs), and other semiconductor white-light producing devices.

ARTICLE IV – FORMS OF COLLABORATIVE ACTIVITIES

Collaboration under this MOA may include, but is not limited to, the following forms of activities:

- Conducting workshops related to SSL technology and annual program reviews for projects in DOE's SSL Portfolio. These workshops and program reviews will be jointly conducted by the Parties but will be open to the public;
- Participating in project reviews for applied research projects in DOE's SSL portfolio (i.e., the "core" research program);
- Coordinating the development of metrics, codes, and standards for measurement and utilization of SSL products for general illumination;
- Reviewing proposals for applied research in DOE's SSL portfolio; and
- Planning and promoting demonstrations by SSLO members of SSL technologies used for general illumination applications.

The SSLO may designate a third party (e.g., contractor or organization member) to act on its behalf to conduct these collaborative activities. Due to conflict of interest considerations, some members of the partner organization and some employees of members of the partner organization may be unable to participate in certain activities of the MOA.

ARTICLE V – RESPONSIBILITES OF THE PARTIES

A. Responsibilities of the Department of Energy:

- Identify a Federal employee at the National Energy Technology Laboratory as the point of contact (POC) to function as the interface between the SSL Portfolio and the SSLO to ensure that the collaborative activities conducted under this MOA are coordinated with the schedule and progress of the SSL Portfolio and are free of conflicts of interest.
- Arrange to provide the SSLO with SSL Portfolio- and project-related information (e.g., reports, proposals, and program or project summaries) in accordance with the purpose, terms, and conditions of this MOA and as available from DOE's SSL projects.
- Take the necessary steps to ensure that subject inventions generated by SSL Portfolio applied research program participants are available to members of the SSLO for licensing.
- Provide the SSLO with timely information regarding patents and other intellectual property available for licensing from SSL Portfolio participants.

- Provide the SSLO with timely information regarding DOE funding opportunities available to its membership and the public for research, development, and demonstration of SSL technologies.
- Participate with the SSLO in planning of SSL demonstrations by their members.

B. Responsibilities of the SSLO:

- Identify an individual as the POC to function as the interface between the SSLO, its membership, and DOE to ensure that the collaborative activities conducted under this MOA are coordinated with the SSL Portfolio and are free of conflicts of interest.
- Provide a membership consisting of companies with substantial SSL manufacturing capabilities in the United States that, together with the staff of the SSLO, will:
  - Provide administrative expertise and financial resources to organize and conduct technical meetings and workshops related to SSL technologies.
  - Provide technical expertise to review SSL applied research proposals, participate in SSL project review meetings, and provide recommendations from individual SSLO members on the direction of research, development, and demonstration of SSL technologies for general illumination.
  - Lead efforts to develop metrics and standards for the application of SSL products for general lighting.
  - Recommend, develop, and technically and financially support demonstrations of SSL technologies, emphasizing those technologies developed in the DOE SSL Program.
  - Develop processes and/or procedures to safeguard any business sensitive or proprietary information provided as a result of this MOA.

C. SSLO and DOE mutually agree to the following:

- Within statutory limits and DOE regulations, work to promote SSL technologies to the common benefit of the DOE program and SSLO membership.
- At times and locations acceptable to the SSLO and DOE POCs, meet to discuss and plan the activities of the partnership. At the discretion of the POCs, these meetings may also include representatives of the SSLO members, DOE SSL Portfolio participants, and DOE contractors.

ARTICLE VI – PUBLICATIONS

Each Party agrees to seek pre-publication approval from the other Party prior to any planned publication under this MOA. The Parties agree that any such publications shall not include Confidential Information of a third party. Approval shall not be unreasonably

withheld or denied. Failure to receive a written response within thirty (30) calendar days from the date the document is provided for review shall be considered as pre-publication approval. Any public information release concerning the activities related to this agreement shall describe the contribution of both Parties to the activity. This does not apply to reports or records released pursuant to the Freedom of Information Act.

Publication may be joint or separate, always giving due credit to the cooperation and recognizing, within proper limits, the rights of individuals, including employees of SSLO members and employees of DOE program participants, who performed the work. In case of failure to agree on the manner of publication or interpretation of results, either Party publishing the results will give due credit to the cooperation of the other Party, but will assume full responsibility for any statements in which a difference of opinion exists.

ARTICLE VII - INTELLECTUAL PROPERTY

DOE plans to include in any agreements under its SSL applied research ("core") program provisions requiring the awardee to enter into negotiations with SSLO members intended to lead to the non-exclusive licensing of any subject invention made under the agreement. To accomplish this, DOE plans to pursue a determination of exceptional circumstances under the Bayh-Dole Act for domestic nonprofit and small business participants in the DOE core program, and DOE plans to grant patent waivers to other types of entities. DOE will use its best efforts to enforce any and all intellectual property provisions of the cooperative agreements under the DOE SSL applied research program. Regardless of DOE's success in executing such a determination of exception circumstances, DOE will endeavor to provide information in a timely manner to the SSLO concerning inventions and other intellectual property developed by core program participants.

All representatives of the SSLO and its members shall agree to non-disclosure of any and all confidential or proprietary information prior to participation in partnership activities such as proposal or project reviews or any activity that may disclose confidential or proprietary information from DOE SSL Portfolio participants. Government employees are bound by the provisions of the Trade Secrets Act (18 USC 1905) to not disclose confidential or proprietary information obtained during the course of their Government employment.

It is not anticipated that the activities of the partnership will result in inventions. However, in the event that an invention is conceived or first reduced to practice by any employee of the parties within the scope of this MOA, rights to such invention shall be governed by the patent policy of Section 9 of the Federal Non-nuclear Energy Research and Development Act of 1974, 42 U.S.C. 5908.

ARTICLE VIII – FUNDING AND IMPLEMENTATION

The Parties shall each bear the costs they incur for performing, managing, and administering their activities under this MOA. These costs include salaries, travel, and

per diem for personnel, as well as any contract costs. This MOA shall not be used to obligate or commit funds or as the basis for the transfer of funds.

ARTICLE IX – MISCELLANEOUS

A. Other Relationships or Obligations

This MOA shall not affect any pre-existing or independent relationships or obligations between the DOE and the SSLO. Nothing in this agreement is to be construed to infer in any way the basic responsibilities of either Party for independent action.

B. Survival

The provisions of this MOA which require performance after the expiration or termination of this MOA shall remain in force notwithstanding the expiration or termination of this MOA.

C. Severability

Nothing in this MOA is intended to conflict with current law or regulation or the directives of the Department of Energy. If any provision of this MOA is determined to be invalid or unenforceable, the remaining provisions shall remain in force and unaffected to the fullest extent performed by law and regulation.

D. Compliance with Laws

The Parties shall each be responsible for their own compliance with applicable laws and regulations, including export control laws, in performing the work scope of this MOA. The construction, validity, performance, and effect of this MOA for all purposes shall be governed by the laws applicable to the Government of the United States.

ARTICLE X – AMENDMENT, MODIFICATION, AND TERMINATION

This MOA shall remain in effect for the period of 30 months from its effective date, and, if agreed upon by the Parties, may be extended for three additional 12-month periods for a total of five and one-half years. This MOA may be modified or amended only by written agreement of the Parties. Either Party may terminate this MOA by providing written notice to the other Party. The termination shall be effective upon the sixtieth calendar day following notice, unless an earlier or later date is agreed to by the Parties.

ARTICLE XI – EFFECTIVE DATE

This MOA will become effective upon the latter date of signature of the Parties.

Executed in duplicate on the dates indicated below:

By: _____ Date: _____

Michael McCabe
Building Technologies Program Manager
U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy

By: _____ Date: _____

XXXXXXXX
Director
Solid State Lighting Organization